



TTC37 gene

tetratricopeptide repeat domain 37

Normal Function

The *TTC37* gene provides instructions for making a protein whose function has not been confirmed. Based on its similarity to a protein in other organisms, researchers speculate that the *TTC37* protein acts as part of a group of proteins called the SKI complex. This complex is thought to be necessary for the function of another large protein complex known as the cytosolic exosome. Within cells, the cytosolic exosome helps to recognize and break down excess or abnormal messenger RNA (mRNA) molecules. mRNA is a chemical cousin of DNA that serves as the genetic blueprint for protein production. Studies suggest that the cytosolic exosome's role in getting rid of excess and abnormal mRNA is important for cell growth.

Health Conditions Related to Genetic Changes

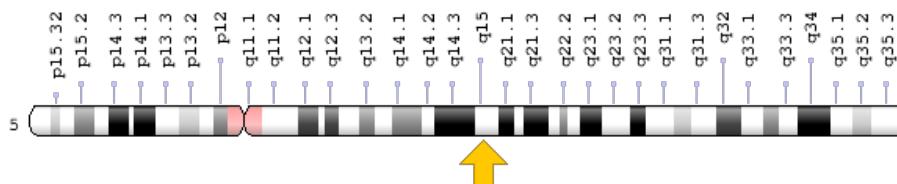
trichohepatoenteric syndrome

At least 25 mutations in the *TTC37* gene have been found to cause trichohepatoenteric syndrome, a rare condition that affects many parts of the body. Its major signs and symptoms include chronic diarrhea starting in infancy, hair abnormalities, distinctive facial features, and liver disease. Mutations in this gene likely eliminate the function of the *TTC37* protein. Researchers hypothesize that a loss of this protein's function impairs the activity of the SKI complex and the cytosolic exosome. However, it is unknown how these changes could lead to chronic diarrhea and the other features of trichohepatoenteric syndrome.

Chromosomal Location

Cytogenetic Location: 5q15, which is the long (q) arm of chromosome 5 at position 15

Molecular Location: base pairs 95,463,895 to 95,555,005 on chromosome 5 (Homo sapiens Annotation Release 108, GRCh38.p7) (NCBI)



Credit: Genome Decoration Page/NCBI

Other Names for This Gene

- KIAA0372
- Ski3
- SKI3 homolog
- tetratricopeptide repeat protein 37
- thespin
- TPR repeat protein 37
- tricho-hepatic-enteric syndrome protein

Additional Information & Resources

Educational Resources

- Genomes (second edition, 2002): Degradation of mRNAs
<https://www.ncbi.nlm.nih.gov/books/NBK21132/#A7399>
- Marie Curie Bioscience Database: Structural Components and Architectures of RNA Exosomes
<https://www.ncbi.nlm.nih.gov/books/NBK45033/>

Scientific Articles on PubMed

- PubMed
<https://www.ncbi.nlm.nih.gov/pubmed?term=%28TTC37%5BTIAB%5D%29+OR+%28SKI3%5BTIAB%5D%29+AND+english%5Bla%5D+AND+human%5Bmh%5D>

OMIM

- TETRATRICOPEPTIDE REPEAT DOMAIN-CONTAINING PROTEIN 37
<http://omim.org/entry/614589>

Research Resources

- ClinVar
<https://www.ncbi.nlm.nih.gov/clinvar?term=TTC37%5Bgene%5D>
- HGNC Gene Family: Tetra-tricopeptide repeat domain containing
<http://www.genenames.org/cgi-bin/genefamilies/set/769>
- HGNC Gene Symbol Report
http://www.genenames.org/cgi-bin/gene_symbol_report?q=data/hgnc_data.php&hgnc_id=23639
- NCBI Gene
<https://www.ncbi.nlm.nih.gov/gene/9652>
- UniProt
<http://www.uniprot.org/uniprot/Q6PGP7>

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